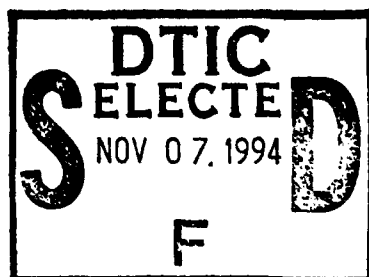AD-A285 953

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Integrating SIMNET Into Heavy Task Force Tactical Training

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October 1994

Armed Forces Research Unit
Training Systems Research Division

U.S. Army Research Institute for the Behavioral and Social Sciences

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13. ABSTRACT (Maximum 200 words)

    This report describes a procedure used to integrate simulation networking (SIMNET) exercises and traditional field exercises into a coordinated training plan intended to prepare an armor unit for a rotation at the Combat Training Center (CTC). The procedures outlines the development of a Battalion training plan and the training sequence to be followed during the 7 months prior to a CTC rotation. The resulting plan allows commanders to tailor the training sequence to meet unit-specific training goals, thus maintaining higher combat readiness at a lower cost. Included is the SIMNET planning package (prepared by SIMNET site staff) that the unit used to plan and execute its simulation-based training.

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Integrating SIMNET Into Heavy Task Force Tactical Training

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United States Army

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**Manpower, Personnel,
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The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is the U.S. Army's principal resource for personnel and training related research. As such, ARI has the mission of producing, supporting, and bringing together research in the areas of manpower, personnel, and training with a goal of optimizing Army soldier performance and combat readiness. Toward this goal, the ARI Armed Forces Research Unit at Fort Knox performs and disseminates state-of-the-art research and gathers and distributes findings on current and future systems, personnel and training technologies, and new techniques with potential application to the Army's Mounted Warfighting Battlespace requirements.

One important source of training information is the pool of officers and NCOs with whom ARI Field Units work who constantly train or provide training to soldiers. This is particularly true in the case where these personnel work with new training aids, devices, simulators, and simulation (TADSS) such as Simulation Networking (SIMNET). The author of this report spent many hours training armor platoons and companies in the SIMNET facilities in Germany. He provides detailed procedural information that has not been documented previously. This procedural information is supplemented with comments concerning his own plans and interpretations. The reader will find ample information to expand the concept for future training in SIMNET facilities.

Selected contents of this report have been disseminated to the Armor Community at Fort Knox. These include Chief of Staff for the Armor School, Director of Combat Developments, and the 194th Separate Armor Brigade.

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Director

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INTEGRATING SIMNET INTO HEAVY TASK FORCE TACTICAL TRAINING

CONTENTS

CONTENTS (Continued)

INTEGRATING SIMNET INTO HEAVY TASK FORCE TACTICAL TRAINING

Introduction

As the U.S. Army's training budget declines, units in the Continental United States (CONUS) feel the pinch of limited access to training areas, reduced ammunition and a reduction in operational tempo (OPTEMPO). Units in Germany have already experienced the impacts of these reductions but are still faced with the goal of maintaining combat readiness. To achieve this goal, the training techniques and methods must change. With the introduction of <u>Training the Force: Soldiers, Units, and Leaders</u> (FM 25-100), <u>Battle Focused Training: Battalion and Company Soldiers, Leaders, and Units</u> (FM 25-101) and the Mission Training Plans (MTPs) for most units, leaders have an excellent reference for how and what to train. Commanders develop their Mission Essential Task List (METL) from the MTP missions that give everyone a common understanding of the task, conditions, standards and the performance to achieve success. However, none of these manuals address the integration of simulation exercises and traditional field exercises into the training cycle to maintain readiness at the lowest cost.

This report was written to provide documentation of one unit's attempt to systematically integrate simulation and field training into their training plan. It describes how a company and a battalion utilized Simulation Networking (SIMNET) and small local training areas to build and sustain task proficiency as described in their METL to prepare for a Combat Training Center (CTC) rotation. SIMNET was used at the platoon, company and battalion levels to evaluate unit tactical Standard Operating Procedures (SOPs) and selected missions against the MTP manual standards. The battalion used division- and brigade-directed training simulations to gain additional task proficiency in selected areas. Simulations were chosen as building blocks because they are easily repeated and relatively low in cost. However, they still require all of the same planning and execution of more traditional field exercises to achieve success. The MTP missions and conclusions from the exercises must be carefully modified to accommodate the differences between reality and simulator. External to the simulator, exercises and testing must be integrated into the total training plan to draw more accurate conclusions.

Faced with many tools to accomplish the mission of training for combat, commanders require a method that assists them in tailoring training objectives to simulations (see Table 1). Individual through battalion skills can be taught in garrison, then integrated and checked during field training and subsequently practiced in near-combat experiences at a CTC. The practice of multi-echelon training to save time and resources still remains valid. It is best suited to testing one level,

sustaining the level below and training the level above. When executed, this becomes concurrent platoon Army Training and Evaluation Programs (ARTEPs) for a company. Selected individual skills are tested among the soldiers during the field training exercise (FTX), while the company headquarters is doctrinally employed providing its normal command, control and logistics functions. This is readily accomplished when field training and simulators are used together.

Table 1

Battalion Task Force Multi-Echelon Training

SIMULATION DEVICE OR TRAINING VEHICLE	MAIN TASKS TO BE TRAINED	NEW APPLICATION OF SIMULATION TO TRAINING
Unit Conduct of Fire Trainer (UCOFT)	● Crew Gunnery	● Instructor/Operator (I/O) selected exercises in a scripted scenario with malfunctions ● Section/Platoon fire commands issued by the leader
Platoon Gunnery Trainer (PGT)	● Platoon/Section Gunnery ● Company Gunnery	● Scripted scenario with Plt Ldr or Co Cdr issuing fire commands and giving spot reports ● Company CALFEX
Training Set, Fire Observation	● Call for Fire ● Coordination Exercise	● FIST with DMD calling missions to Bn Mortar Ballistic Computer ● Add soldiers to above exercise
Command Post Exercise	● Perform Staff Functions ● Operate TOC, CTCP, FTCP ● Provide CSS	● Coordinate to deploy & support Co ARTEPs, LOGEXs, & Bn Gunnery for training with attachments
Battalion/Task Force (Bn/TF) Logistics Exercise	● Same as Above	● Internal validation of METL and Battle Drills for C3 Nodes and CSS systems
Battalion Gunnery	● Crew to Platoon Gunnery	● Add 48-72 hour MILES Tactical Table for Plt and Co/Tm attack & defense with attachments
Bn/TF FTX in SIMNET	● All Tactical Planning & Execution of METL Tasks	● Execute Dress Rehearsal for rotation on the CTC database

Specified levels of training can be achieved in simulation, however, to evaluate the level of training and diagnose the additional training requ¹ʳed, the After Action Review (AAR) is critical. AARs should be conducted with objective honesty and led by a facilitator who is able to focus on the teaching points for the leaders and soldiers. The observers for the platoon or company should have been selected for their doctrinal knowledge of the missions, trained in AAR techniques, and equipped with the ARTEP MTP checklist. SIMNET provides as good an AAR support package as a unit could get at a CTC. Additionally, the entire battle can be replayed and analyzed repeatedly so there is never any doubt about when events occurred on the battlefield. This is a tremendous advantage that SIMNET simulation offers over field exercises. The company and battalion are able to get a CTC-like experience at home station and it can be attained with internal resources. The battalion can then rehearse its expected missions many times before actual deployment to the CTC and arrive with a greater entry level of training.

The Training Challenge and Goal

Army training is defined as a cyclic process. One of the critical components of this cycle is evaluation and feedback. This ensures that training remains current with regards to the needs of the organization and ensures that the unit is focused on timely results. Army training doctrine requires training to be conducted one level higher than the unit and evaluated two levels higher (FM 25-101). This approach often means that the various combat and combat support units of a battalion task force are trained separately and integrated for large scale ARTEP field exercises. Needless to say, this is a challenging process.

Training objectives must be kept tightly controlled and tailored to the training resources available. At the company level, individual through crew skills can be adequately trained and evaluated. Battalions train companies and evaluate platoons with a focus on success in combat or at a CTC. Successful simulation of a CTC at the home station for a battalion would consume a division's resources in observers, opposing force (OPFOR), and logistics. However, by dividing this level of evaluation between FTX and simulation, a manageable alternative is available for efficient training. The available resources (time, training aids/devices, maneuver area, and logistics) must be factored into the plan at several stages. MILES equipment can normally be obtained for at least a battalion as can sufficient maneuver space. However, competition for these two resources is high. Without them and an uncooperative, free play tactical environment, preparations for a CTC rotation are seriously degraded. The CTC is designed to test nearly every soldier skill, platoon and company battle drills, and the battalion readiness to fight in combat. The logistics and maintenance

systems are also severely stressed, as they must continuall,
resupply or regenerate combat power for the battles (FR 350-50).

SIMNET provides an ideal tool to train, sustain, and
evaluate tactical collective skills and battle drills. Soldier
through crew technical skills, however, must be trained and
evaluated elsewhere. At a minimum, extensive "chalk talks" and
"rock drills" should be used to teach and practice these skills
before exposing troops to SIMNET. Most units start in SIMNET at
a higher-than-beginner level, because establishing lower leaders'
authority is critical to tactical training. Company commanders
should conduct extensive coordination and leader coaching to
focus their platoons on their critical tasks. First experiences
in SIMNET should be positive, tough, and require the unit to
fight hard to win. Following this type of practice in SIMNET, an
FTX could be conducted to reinforce the same tasks, allowing
transfer of thes skills from simulator to field. Differences
must be pointed out, but similarities are extensive and lessons
learned usually unforgettable.

Training Time Allotments

As shown in Table 2, a master training plan for the
battalion will chart the course for CTC preparation. Prior to
the normal 5-week lock-in of scheduling and resources, commanders
normally inform subordinates as to when they will be conducting
intensive training. At this time, the METL or ARTEP MTP tasks
also should be identified for both the training and for any
evaluation that will take place. This information will allow all
necessary training to be planned and conducted by the leaders.
This information also forces them to manage their time and
resources to meet the goals of the company and battalion.
Commanders should not only conduct training as required, but
conduct pretests of their units. In doing so, SIMNET and
training areas should be made available to them to avoid many
problems that can occur during evaluation. In SIMNET, for
example, navigation and maintaining formation are some of the
more difficult tasks. These can be overcome early in training if
the resources are made available.

Once the evaluation period starts, the unit should be
completely occupied with the current mission and preparing for
the next. Breaks in the action will occur, whether due to task
completion or shifting from field to simulator usage. These
breaks represent an opportunity for commanders to make quick
assessments and issue corrective instructions. Extensive
retraining time should not be allowed, but the unit should have
the chance to perform the task again and to demonstrate a higher
level of proficiency in the next series of missions.

With training resource cycles imposed at higher echelons,
units will generally not have continuous dedicated support or

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Table 2

Battalion Training Plan

NUMBER OF MONTHS PRIOR TO THE CTC ROTATION	WEEK 1	WEEK 2	WEEK 3	WEEK 4
7	Fill Bn to 110% Manning and 100% MTOE Equipment. Conduct CTT.		Stop Loss All Personnel Until 90 Days After the CTC Rotation. Stabilize All Crew and Leader Positions. Conduct Personnel Readiness Review.	
6	Bn Gunnery Thru Platoon Table. Mortar & Scout Gunnery. Qualify All Small Arms.		Maintenance. Leader HMMWV CFX. DMD/MBC Exercise	2 Co's in Plt STX Lanes (4 Days). 2 Co's in NBC TRNG, TSFO.
5	2 Co's in Plt STX Lanes (4 Days). 2 Co's in NBC TRNG, TFSO.	Maintenance. 2 Co's SIMNET. 2 Co' PGT.	2 Co's SIMNET. 2 Co's PGT. CBT & FLD Trains LOGEX.	Plt ARTEPS With 36 Hr Co FTX. DMD/MBC Exercise. TOC Exercise.
4	Maintenance Plt Gunnery Exercise in PGT.	Co Training in SIMNET. Mortar & Scout Gunnery. Scout RECON FTX.	Co FTX. TOC CTCP, FTCP Field Exercise.	DMD/MBC Exercise Qualify Small Arms.
3	Co ARTEP (8 Days) Filed/SIMNET (CTC Database). TOC, CTCP, FTCP Exercise.	Maintenance. ARTBASS With C3 Node Verification.	Bn/TF FTX (CTC Rotation Based).	Maintenance. DMD/MBC Exercise. Last Crew Changes.
2	Bn Mini-Gunnery. PGT Certification. Mortar & Scout Gunnery.	Plt Gunnery, Co CALFEX, Bn/TF CALFEX with SIMNET Rehearsals. Mortar ARTEP. Scout ARTEP.		Bn/TF ARTEP (CTC Rotation Based).
1	Maintenance Bn/TF SIMNET CFX.	Bn/TF SIMNET Exercise (CTC Rotation Model & database). NBC, CTT, MOS Skills Verified.		Advance Party Moves. Begin Deployment.

NOTES: Use of UCOFT is continuous at 10-14 hours per day, 5-6 days per week.
DMD/MBC exercise monthly for FIST/TACFIRE/MORTAR computer mission practice.

training time. Individual and crew skills can usually be maintained without extensive outside support. For example, classes on enemy equipment and doctrine can result in a better understanding and anticipation of enemy actions on the battlefield. When outside support is available, FTXs or computer simulations can be used to reinforce lower level skills and encourage team tactical skills for platoons and companies. Long breaks for major events such as vehicle gunnery also can be used as METL task training events. For example, movement between ranges could be performed as tactical road marches with quartering parties sent ahead to takeover and set-up the range. Class I, III, V (food, fuel, and ammunition) should be delivered to units exactly configured and led by the support platoon leader or sergeant to a battalion logistics release point as a logistics package (LOGPAC). This represents an integration of all types, levels, and resources to a single goal of multi-echelon training for success in combat or a CTC[1].

Coordination With the SIMNET Site

Efficient utilization of training resources generally requires some type of coordination. Training in SIMNET is no different. Coordination with the SIMNET site manager and battlemaster is critical to the successful use of the simulators. The site manager and battlemaster should have a thorough understanding of the MTP missions that have been selected, the intent of the training, and the training objectives for the unit. This coordination is best and most easily accomplished with a liaison visit to the site. The liaison team might consist of a training unit controller and the unit Semi-Automated Forces (SAFOR) SIMNET operator. This initial visit should be conducted about four to six weeks prior to the training. For a company conducting its own training, this visit could be by the company commander and his executive officer (XO) or master gunner. For battalion-driven training events such as platoon ARTEPs, company training, or a battalion command field exercise (CFX), the operations officer (S-3) and intelligence officer (S-2) should conduct the visit personally.

The planning package shown in Appendix A provides a solid database with which the SIMNET site manager can provide unit support. These forms are currently in use at the SIMNET sites in Germany. A short overall mission statement, the commander's intent, and a list of the MTP missions to be trained provide the information needed by the site personnel to provide their best assistance to the unit. In a subsequent visit about two or three weeks prior to training, copies of all overlays and a detailed

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[1] Policy of 1st Battalion, 68th Armor and 2nd Battalion, 32nd Armor during all Grafenwohr gunnery densities was to use tactical road marches, quartering parties, assembly area operations, and LOGPACs to the maximum extent possible.

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time schedule of activities should be provided to the
battlemaster. Early delivery of the overlays will allow the
battlemaster time to input them for display on the Plan View
Display (PVD) for use in AARs. The time schedule must also
include time for training SAFOR operators. Trying to conduct
this depth of coordination on the first day of training will end
in frustration and wasting of the soldier's time.

Missions in SIMNET require more detailed planning than is
given to most field exercises. Terrain must be selected from a
map reconnaissance for both friendly and enemy forces to occupy.
The stealth station, in conjunction with the Plan View Display
(PVD), can be used to check the suitability of these areas for
the planned battles. The SAFOR could even be used to run tests
of intervisibility and outcomes, if time is available for such
extensive preparations. Instructions must be written for the
OPFOR, with overlays, to provide an overall concept for enemy
actions during the training. The units being trained must
receive full operations orders (OPORDs) and conduct rehearsals
for each mission they will execute. If done prior to the first
training day, unit leaders can check troop leading procedures of
their subordinates in detail, attend delivery of the OPORDs, and
conduct briefbacks and rehearsals at every level. These steps,
done prior to entering the simulators, are vital and immediately
transferable to regular field combat operations skills.

The unit then completes the coordination sheets so the
simulators are set-up for the crew; ammo, fuel, and maintenance
status are set the same as their actual vehicle. Vehicles should
have the same radio configuration as the crew's own vehicle.
This may not always be possible at smaller facilities, but most
can support at least a company-team training together. Crews
should be given the six digit grid coordinate of their start
point and initial azimuth, since they would know this in any
field exercise. Unless a LOGPAC is a required mission, fuel and
ammo should start at the vehicle basic load levels. For M1A1
equipped units, this means limiting the main gun ammunition to 41
rounds (with one round in the chamber). Ammunition caches can be
placed on the battlefield by pre-positioning a loaded Heavy
Expanded Mobility Tactical Truck (HEMTT) in a battle position
(BP), ready for use. A similar worksheet must be completed to
place the SAFOR Opposing Forces (OPFOR) in their starting
positions.

Once the unit arrives at the simulation facility it is
suggested that even experienced units allow a short settling-in
period. For example, a short movement from a tactical assembly
area (AA) allows the soldiers to adjust to the simulators and
become accustomed to the terrain in the SIMNET data base. Long
road marches, long periods in attack positions or assembly areas
while orders are worked on, are difficult periods for leaders to
maintain high interest levels. A "down time" plan made by the

unit leaders for extra rehearsals or basic soldier skill classes
can offset time lost during technical or other difficulties.

SIMNET Training

SIMNET offers the opportunity for several types and levels
of training. The following sections provide examples of how
SIMNET was used in conjunction with other training methods by the
units. This discussion considers a range of training from
soldier and small units to battalion task force. It also
considers aspects such as the AAR and additional techniques and
procedures that could be incorporated into a unit's training in
SIMNET.

Soldier and Small Unit Training

As the training plan was developed it was important for the
trainer to be cognizant of the differences between the available
training devices (see Table 1). At this point, he was allocating
training resources to the appropriate device. For example, basic
soldier skills were not taught in SIMNET. This type of training
was accomplished by the unit non-commissioned officers (NCOs)
prior to starting collective training. It was also essential at
this point to begin the consideration of the transfer of skills
between the field and the simulator. Crew, section, and platoon
collective skills were first taught on the vehicle or in the
field. Transfer of these skills to the simulator was much easier
if the soldiers and crews were thoroughly grounded in basic
drills of fighting the vehicle. Another example that can be
cited is a rather common mistake on the part of the trainer
attempting to utilize SIMNET to train gunnery skills. The Unit
Conduct of Fire Trainer (UCOFT) and Platoon Gunnery Trainer (PGT)
are much better technical gunnery trainers than SIMNET. With
this in mind, a short, initial familiarization was used to point
out differences due to the computer simulation. In general,
leaders must kept these differences to a minimum. Moving
soldiers rapidly between SIMNET and UCOFT can be a disaster that
causes bad habits, frustration, and wasted training time. JANUS
is yet another training resource that provides some practice for
units to work together on tactical problems. However, it
requires extensive training and support for keyboard operation
and excludes most of the soldiers from the training. Training
complex tactical drills can be hard during an FTX, more difficult
in SIMNET, and impossible to synchronize in combat. This
emphasizes the need for basic drills and flexible thinking to
survive in combat, CTCs, and SIMNET against the enemy.

SIMNET was best used as a command and control trainer where
vehicles maneuver as part of their platoon, platoons maneuver as
part of their company, and companies maneuver as part of their
battalion. Unit training utilized the SIMNET capabilities,

focusing on the execution of MTP missions based on the unit's METL. With this focus, platoons and companies could significantly increase their battle drill and METL proficiency for appropriate tasks such as attack, defend, or passage of lines. This training was repeatable, cheaper, and easier to analyze than the more traditional field exercise. After training in SIMNET, however, it was imperative that skills learned on the device be transferred to the field in the form of an exercise as soon as possible. When utilized in this way, SIMNET aided the diagnosis of training problems and augment, but did not replace, traditional field training. After training in SIMNET, the level of proficiency was much higher than is otherwise possible in a short period of time.

Several examples can be provided herein to explain the use of SIMNET in training. The Training Set, Fire Observation (TSFO was one of these as it provided a good aid in teaching the basic of calling for artillery fire. Currently, the TSFO lacks many of the real aids to adjust fires since the observer looks at a flat two dimensional image. SIMNET, as a call for fire trainer, provides an illusion of depth, the use of vehicle sights, a range-finder, azimuth-indicator and properly sized distant targets; all of which are aids to adjusting artillery fire. This made it a much more advanced trainer for vehicle commanders. The sample TSFO progression matrix, shown in Table 3, was used to prepare soldiers to enter SIMNET for a graduation exercise using artillery during combat operations[2].

No standard TSFO progression matrix has ever been developed for TSFO training. What was available was developed at local training facilities for their specific training. The example in Table 3 illustrates "a method" to achieve maximum proficiency and could be applied to every soldier or every crew. Fire Support Teams (FISTs) had to show advanced proficiency with the attack of battalion formations that are both stationary and moving, coordinated HE/Illum missions and COPPERHEAD attacks. The training of a company can be integrated with FIST Tactical Fire Direction System (TACFIRE) Digital Message Device (DMD) linkage to the battalion mortar platoon Fire Direction Center's (FDC) Mortar Ballistic Computers (MBC) for maximum benefit and value.

In summary, the trainer of small units in SIMNET should provide the necessary time and resources for units to become oriented to a radically different training environment. The company commander could verify his platoons on the five platoon battle drills from Tank Combat Tables (FM 17-12-1). The platoons can then move into simple platoon exercises with long range target identification, call for fire, and navigation techniques.

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[2] This training matrix for the TSFO is a similar concept to the UCOFT matrix and was adapted from one originally developed by Mr. Rick Thomas, UCOFT/TSFO manager, Wildflecken Training Area, FRG.

Table 3. TFSO Progression Matrix

Mission / Unit	Stationary Area Target			Stationary Point Target			Smoke		Illum		Stationary Illum-HE Area Target			Moving Area Target			Moving Point Target			Moving Illum-HE Target		
	ADJ POLAR FIRE	ADJ SHIFT FIRE	ADJ GRID FIRE	ADJ POLAR FIRE	ADJ SHIFT FIRE	ADJ GRID FIRE	HAZE	CURTAIN	GRBURST COUNT	BURST AIR	ADJ POLAR FIRE	ADJ SHIFT FIRE	ADJ GRID FIRE	ADJ POLAR FIRE	ADJ SHIFT FIRE	ADJ GRID FIRE	ADJ POLAR FIRE	ADJ SHIFT FIRE	ADJ GRID FIRE	ADJ POLAR FIRE	ADJ SHIFT FIRE	ADJ GRID FIRE
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Cdr:																						
XO:																						

Table 4. SIMNET Progression Matrix

ENEMY ATTACK SPEED=10 MPH NOVICE / 15 MPH EXPR & EXPERT SLOW / 10 MPH ON CONTACT	PLATOON DEFEND	PLATOON ATTACK	PLATOON DEFEND	PLATOON ATTACK	PLATOON DEFEND	PLATOON ATTACK	COMPANY DEFEND	COMPANY ATTACK
BMP Plt., novice, 1000m							X	X
BMP Plt. expr, 1500m							X	X
BMP Plt. Expert, 2500m							X	X
TK Plt, expr, 1000m,							X	X
TK Plt, Expert, 2000m							X	X
BMP Co, Novice, 1000m							X	X
BMP Co, expr, 1500m							X	X
BMP Co, Expert, 2500m							X	X
BMP Co w/ TK Plt, Novice, 1000m							X	X
BMP Co w/ TK Plt, expr, 1500m							X	X
BMP Co w/ TK Plt, Expert, 2500m							X	X
TK Co, Novice, 1000m							X	X
TK Co, expr, 1500m							X	X
TK Co, Expert, 2000m							X	X
TK Co w/ BMP Plt, Novice, 1000m							X	X
TK Co w/ BMP Plt, expr, 1500m								
TK Co w/ BMP Plt, Expert, 2000m								
2 BMP Cos, expr, 1500m	X	X	X	X	X	X		
w/ 2 TK Plts, expr, 1500m	X	X	X	X	X	X		
2BMP Co's, expr, 2000m	X	X	X	X	X	X		
w/ 2 TK Plts, expr, 2000m	X	X	X	X	X	X		
2 BMP Co's, Expert, 2500m	X	X	X	X	X	X		
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3 BMP Co's, expr, 1500m	X	X	X	X	X	X		
w/ 3 TK Plts, expr, 1500m	X	X	X	X	X	X		
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w/ 3 TK Plts, Expert, 2000m	X	X	X	X	X	X		
3 BMP Co's, expr, 2000m	X	X	X	X	X	X		
w/ TK Co, expr, 2000m	X	X	X	X	X	X		
3 BMP Co's, Expert, 2500m	X	X	X	X	X	X		
w/ TK Co, Expert, 2000m	X	X	X	X	X	X		

This prepared them to enter a SIMNET training progression matrix to defeat the SAFOR in the numbers and with the proficiency required in mid- to high-intensity combat (see Table 4). Exact scenario development and battle area, skipping levels, or adjusting OPFOR range and proficiency settings, remained the prerogative of the senior trainer to determine for his unit.

Staff Training

Prior to entering any type of training, either field or simulation, staff responsibilities and procedures must be defined. This is best done with the NCOs concentrating on drills derived from tasks in the battalion MTP. In this particular training plan, these actions included setup, move, communicate, and physically lay-out work areas for operations. Officers and senior NCOs concentrated on the dynamics of staff estimates, orders production, and monitoring the current operations of the unit. An SOP for the three battalion-level command posts (CP), the Tactical Operations Center (TOC), Combat Trains CP (CTCP) and Field Trains CP (FTCP) provided the common understanding necessary for a successful mission (see Table 5). Orders production and the staff work necessary were streamlined and standardized as completely as possible. Pre-formatted orders, standard formations, and logistics packages tuned the estimate process and production of full operations orders to under two hours; 90 minutes is achievable. Units could then enforce the 1/3 - 2/3's rule whereby the higher echelon headquarters only

Table 5

Staff Battle Drill Chart

TOC, CTCP, FTCP	TOC	CTCP, FTCP
Operate Main Command Post Task 7-1-3904	Perform S-3 Operations Task 7-1-3902	Perform Combat Service Support Operations Task 7-1-3912
Move a Command Post Task 7-1-3035	Perform S-2 Operations Task 7-1-3906	Operate CTCP/FTCP Task 7-1-3913/3914
Establish a Command Post Task 7-1-3401	Operate Fire Support Section Task 7-1-3908	Operate Personnel Administration Center Task 7-1-3915
Maintain Communications Task 7-1-3901	Command Group Operations Task 7-1-3903	Treat & Evacuate Casualties Task 7-1-3033
Command & Control the Battalion Task Force Task 7-1-3901 (Assists)		

uses one-third of the planning time available, including the time it takes to issue the order (FM 71-2). This left two-thirds of the time available to subordinate headquarters.

For training purposes, command posts must have well-defined drills with concrete, achievable standards. In this case, the battalion MTP gave several tasks that applied to each of the three battalion command nodes: (a) move, (b) maintain communications, (c) establish and operate the CP, and (d) perform the staff section operations. Adding time and detailing required standards for setup, orders preparation, and operational data tracking meant the staff could demonstrate proficiency in their battle drills as easily as any line platoon. Once the staff became individually proficient, they were integrated into Army Training Battle Simulation System (ARTBASS) or Battle Command Training Program (BCTP) simulations that required them to work together and produce plans for the battalion. Execution was similar to actual field operations, but probably at a more rapid pace and with better reporting from the sub-units.

Whether the plans are self-driven or guided externally, staff operations conducted in SIMNET more closely approached reality of the battlefield situation. The staff was relatively isolated from the battlefield, closely monitoring all communications, and plotting the action as it occurs. During the AAR they learned how close their plans were to reality. The results were produced by their own units and soldiers, not by a set of computer algorithms designed to resolve combat. Since all the distances were real, time was much more realistic as compared to other computer simulations where one or two people at a computer terminal know everything that is happening and must try to filter reality to the training audience.

While SIMNET provided a TOC and Administrative/Logistics Operations Center (ALOC) for the players to use inside the SIMNET facility, a dramatic increase in training value was possible when deploying elements of the battalion, not in simulators, to the field. Though initially difficult and cumbersome, standard radio communications were remoted inside the SIMNET building. Companies and platoons continued to move and fight inside the data base as always. Outside, however, all the soldiers who supported them are running actual operations. The TOC, combat trains, and field trains move, provide their own security, and control operations for the commander. The combat and field trains remained oriented to support any actual work that is going on in the garrison, but used the SIMNET unit input to configure LOGPACs and manage the assets available for support. Except for major field training exercises, the staff and support soldiers wee the most difficult to get together and train as a unit. Deploying staffs and support soldiers in a Logistics Exercise (LOGEX) of this type allowed them to reach higher standards of proficiency similar to the way line companies reach these

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standards. Only the combination of SIMNET and a LOGEX provided the staff and support elements the chance to concentrate on their missions.

Platoon ARTEPS

Overview. The platoon ARTEP was conceived to test the company's training effectiveness and ability to work together. Since a platoon rarely works completely alone and requires outside support, the company is deployed to support and assist the platoon in its evaluation. The available maneuver area, in our case, was very limited in size and restricted in its usefulness. The platoon ARTEP was announced well in advance of the evaluation and briefed to the company, battalion, and brigade commanders to facilitate coordination of support, training area, and SIMNET. This advance notice also allowed the company commanders to execute training to prepare their soldiers and platoons. The platoon MTP tasks were identified so that training would remain focused and provide a good base of knowledge from which the platoon leaders worked as they prepared for the evaluation.

In this training, the missions selected came from the MTP tasks that supported the company and battalion METLs. Tasks at the soldier, crew and company level were included for their training value and provided a snapshot of training across the battalion. At the end of the field exercise, a period of 24 to 36 hours was allocated for vehicle maintenance, internal AARs, and troop leading procedures to prepare for the SIMNET missions. All four companies had at least one prior experience with SIMNET during their train-up period. Before this train-up period, the battalion had never used the SIMNET facility in any organized, directed fashion for tactical training.

Field Exercises. The field exercise portion of the platoon ARTEP started with a test of the alert and recall procedures for the company. After the company was organized in the motorpool, a pre-combat inspection was carried out in the motor pool to ensure the unit's load plan conformed to the battalion standard. March discipline and maintenance of the company was then tested during a 25km tactical road march to the local training area. Once in the training area, a simulated corps refuel on the move (ROM) site provided quick refueling of the vehicles to continue the mission. The company then occupied a tactical assembly area and conducted a LOGPAC of Class I and simulated Class V. Vehicle maintenance was performed while the unit leaders reported their status and received final instructions from the company commander.

At this point the company was split into three platoons and assigned different missions. The commander was allowed to go with any platoon and act in his normal role, accompanied by the

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battalion observer for that platoon. One platoon was moved to a battle position and given time to set up a hasty defensive position. This included providing internal security and setting up their own hasty mine and concertina obstacles. Direct fire planning was evaluated as the crews turned in their sector sketches to the platoon leader. A second platoon was sent to an attack position and allowed to conduct a visual recon of the area that they would initially move through. The nature of the terrain prevented them from seeing more than about half of the total area and none of the first platoon's defense. The last platoon was moved to another assembly area for armor crewman and Nuclear, Biological, and Chemical (NBC) skills testing. The battalion observer tested 25% to 50% of the platoon on 10 selected common and Military Occupational Specialty (MOS) tasks, while the battalion NBC officer tested 25% to 50% of the platoon on individual and team NBC skills.

The platoon that was sent to the attack position was observed as they went through the orders process, prepared for combat, and conducted their rehearsal of the attack and an obstacle breach. The platoon that occupied the defensive position was observed as they went through their orders process, occupied the battle position, selected their vehicle fighting positions, prepared a concertina and mine obstacle, and conducted local security. The platoon in the attack position was then launched against the defending platoon and each one's actions observed and compared against the MTP mission standards. Of primary interest was the attacking platoon's ability to breach an obstacle quickly, under fire and according to the CTC's rules of engagement (ROE). An AAR was conducted by the observers for each platoon and included a short discussion of their actions. These two platoon leaders then conducted the coordination for a passage of lines using the battalion Tactical Standard Operating Procedure (TACSOP) check list.

All three platoons of the company rotated through each of the stations: attack, defend, and soldier skills testing. Platoon leaders had their first real chance to direct their platoons to accomplish several tasks simultaneously. The platoons were then turned back over to the company commander's control for a couple of hours of additional or corrective training, as deemed necessary.

The company performed another LOGPAC in the assembly area during the late evening. After End Evening Nautical Twilight (EENT), a night tactical road march was performed with the vehicles completely blacked-out. The cross-country route was 7 to 9 km long with 3 to 4 km in rough terrain. A short maintenance and crew rest break followed to allow preparations for the road march return to the garrison area. Once back on the installation, the company had to cross a chemically contaminated area in Mission-Oriented Protective Posture (MOPP) Level 4 and

conduct a vehicle decontamination and clothing exchange under the direction of the company NBC decon team. The battalion NBC officer and NCO provided assistance, evaluation and quality control. One or two vehicles from each company were sent back from the decon quality control check point as decon failures.

The next 24 to 36 hours were designed to allow the company a transition to SIMNET with no distractors. Vehicles and equipment were cleaned, maintained and brought back to full combat readiness. In addition, final AARs were conducted with the platoons by their observers. During the same period, the company commander was briefed on the next operation, which started his planning and troop leading procedure cycle. With only a map recon, he was to brief the contents of a pre-written order to his platoons. This order covered the essential points that had to occur for the SIMNET scenario to run correctly. Company commanders were granted flexibility to add their own considerations, but not to change the basic intent of the order.

SIMNET Training. The first day in SIMNET focused on movement from an assembly area forward to occupy a company sector in a task force defense. The company was given a sector as an economy of force for the task force and reinforced with a Blue Forces (BLUFOR - semi-automated friendly forces) mechanized infantry platoon. A scout section was also provided to give early warning in a forward screen line. The battalion mortar platoon and one artillery battery were directed to give priority of fires to the company. The designated sector for the company gave the commander maximum flexibility to position his platoons and organize the defense. Therefore, the company commander had to make the same decisions concerning unit placement that he would in combat. Upon occupying the sector, the companies began positioning vehicles, checking the engagement areas and designating target reference points (TRPs).

The sector given to the unit in SIMNET consisted of a flat valley floor with long hills on the north, south and west. The enemy would approach from the east in reinforced Motorized Rifle Battalion (MRB) strength. Each of the four company commanders who participated in this training evolved different plans to defend; a C, L, or U shape being the basic plan and using the valley floor or hills for platoon battle positions. Commanders believed their own positioning was critical to being able to control their platoons and had to find positions where they could view the entire valley. Commanders also faced the challenge of preparing subsequent positions and reconning the routes back to them. Finally, they had to allocate time to conduct a rehearsal either in or out of the SIMNET simulators. Platoon leaders faced similar challenges within their own units.

During this first day, the unit was visited twice by either the battalion commander (Bn CDR) or S-3; once in the morning and

once in the afternoon. This was included to emulate the visits companies could expect in the field to check on the progress of defensive preparations. The task force plan was discussed, as was the company plan, contingencies, and level of work accomplished. The SIMNET stealth station was then used as the Bn Co's High Mobility Multipurpose Wheeled Vehicle (HMMWV) to tour the defensive positions and reconnoiter the engagement area. Problems with silhouetting against the tree lines and using spotter tanks to observe while the others stayed in hide positions were addressed with each commander. TRPs were a major concern for each of the companies. If the unit requested help with the marking of the TRPs, then fuel HEMTTs were provided as an expedient SIMNET solution to the normal method employed by the company for marking the focal points of their fires. Some companies elected to use the trees in the valley or designate other landmarks for the controlling of fires.

Near the end of the first day, a report was sent to the company of an OPFOR BMP reconnaissance platoon entering the sector. The recon platoon was pre-programmed to use the southern part of the engagement area as a route, remain in formation and move through the sector. In the conduct of this training, the OPFOR recon platoon met with varying degrees of success, but never made it out of the valley over the western hill. The recon platoon was engaged by the company in the forward portion of the sector if it began firing or reacting to any exposed vehicles in the platoons. This exercise caused the loss of several vehicles, up to a platoon of tanks in one company. The recon platoon was eventually allowed to penetrate deep in the sector and was then destroyed in a single-platoon volley of fire to prevent reporting in other cases.

The first day of SIMNET training ended with an AAR on the preparation of the defense and the fight against the recon platoon. The recon platoon served to emphasize the need to maintain security during the preparation and rehearsal of a defense. The decision to fire early or late against a recon element caused a considerable amount of debate within the battalion's leadership. Clear guidance from commanders is necessary either to deny the enemy any information about a defense or to deceive him about the true positions. Reporting the level of preparation in the defense and activity descriptions during contact was key to the TOC personnel who supported the exercise.

If training time usage and preparations to occupy a company sector were deemed adequate by the Bn CDR, the company would advance to the planned second day. Otherwise, additional time was allocated on the second day for such preparations and the recon platoon reentered the sector. The second day defense was designed to be run twice from the forward positions or once from the forward, reposition the company between enemy echelons, and

once from the subsequent positions. An additional OPFOR tank company was prepared as a second echelon for the fight at the subsequent positions. Commanders often used the night time break to rehearse their units a last time in the conduct of the defense. This final war gaming of the plan, after spending the day in the actual positions, would have brought up problems with the engagement areas or routes for the leaders.

To begin the second day defense in SIMNET, an OPFOR MRB attacked with two companies forward and one in the second echelon, with each Motorized Rifle Company (MRC) led by an attached tank platoon. The trail company always stayed to the south to portray the OPFOR main effort. Scouts reported the MRB as it closed into the company defense. Direct fire consumed most of the leader's attention. As a result, artillery and mortar fires were inconsistently applied to try to break the formations or cause disruption in the enemy plan. Tank commanders showed a disturbing tendency to pull out of the tree line, stop and fire without ever changing position. Tanks doing this immediately attracted several volleys of fire from the enemy that led to their being destroyed. Interestingly, fratricide became a problem. Platoons facing each other across the valley or down the valley would fire on each other. Though a lot of work went into preparing the initial platoon battle positions, it was very difficult to get the platoons to move to an alternate position to engage the enemy. Command and control broke-down as platoon leaders were killed and their subordinates did not move to the next higher radio net and report.

All companies ran the forward position fight twice in SIMNET, with two companies having time left to fight from the subsequent positions. Meeting the MTP standard to defeat the MRB(+) proved difficult. All the companies let some vehicles through their defense, though they would not have been an organized fighting force. A strict count of vehicles, per the MTP, would have counted most of the defenses as failures. For the AAR, the company commander, platoon leaders, and platoon sergeants were brought to the PVD after each SIMNET battle for a re-run of the fight. A chart pack was used to bring out significant points and then the sheets given to the company commander at the end of the day. The MTP check lists were used to guide the discussions for the platoons and company. After the last leader AAR of the day, the PVD was turned over to the unit for their own discussion of what happened and how to improve. After this company AAR, the company commander was issued an operations order to conduct a hasty attack through an adjacent valley as the lead company of the task force.

Defensive Lessons Learned. The most significant lessons learned during the SIMNET training exercise were about positioning vehicles, the use of the tree lines, and the tree line windows (see Table 6). Tanks that were half exposed through

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the trees when the enemy came into view were almost immediately destroyed. This was pointed out before and after the battle by using the PVD and STEALTH to show crews how this silhouetted them against a contrasting background. Crews insisted this was the only way to see the engagement area. Most admitted noticing the tree line windows, but it never occurred to them to position their tanks so their sights could look through a window and see their TRP. By selecting a curved tree line, vehicles were less susceptible to being acquired and shot in the flank by the advancing enemy. The tanks that had been pulling out in front of the tree lines and never moving died quickly. By the time they had fired three or four shots, the enemy had detected them and begun volley firing back. Crews admitted hearing the rounds land around them, but never pulled back into the trees. This was in stark contrast to the training received in UCOFT, tank gunnery ranges, and CTCs that demands repositioning or returning temporarily to a hide position after firing two rounds. Crews felt that the sheer number of targets was overwhelming and they stayed exposed to try and kill as many as possible.

Table 6

Platoon AAR Defensive Lessons Learned.

SIMNET LESSONS	FIELD APPLICATION
Tree Lines and Windows Must be Used to Conceal from Enemy and Avoid Silhouetting.	Same as in the Field; Important Since No Camouflage Nets or Vegetation is Available.
Change Positions Every 2-3 Rounds; Move When Receiving Effective Direct Fire.	Same as Field; Exactly as Taught by UCOFT and Range Firing.
Use 1 Tank/Bradley as an "Optics Up" LP/OP to Give Early Warning of Enemy Attack	Same as Field; Must be Placed to Observe Entire Sector and Pull Back Once Enemy can be Tracked by Co.
Train Quick, Accurate SPOT Reporting to Build Clear Picture for Commander.	Same as Field; Commander May Not be Able to Directly See Every Part of Sector, BP, or EA.

A SIMNET demonstration was conducted for each company on "a best" technique for staying alive (Kelly, 1989, p. 166). First, the tank must be positioned to see its TRPs by looking through a window in a tree line. A round must be in the main gun, with all stations prepared for firing. The loader must be ready and practiced in loading another round quickly. Second, the tank commander issues the fire command (while still in the hide position) and the gunner identifies the target. When told to move out, the driver opens the throttle all the way and the tank leaps forward to burst through the tree line. The driver

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immediately halts, puts the tank in reverse, and holds the brake. Within two or three seconds, the gunner makes a final lay of the gun, fires, and scans for a second target. At the same time, the tank commander searches for other targets and lays the main gun, if required. The loader immediately loads the second round after the main gun fires. The gunner makes his final lay on the second target and then fires. The driver then backs up straight until he is behind the tree line, then moves the steering control left or right. With other tanks in close proximity, this must be a platoon shift in the same direction. Finally, the gun is again reloaded, the tank is straightened out perpendicular to the tree line and ready to repeat the drill. Total exposure time runs in the five to seven second range, not enough time for any return fire to become effective. This technique requires an extensive knowledge of the battle position, the engagement area, and the TRPs. Vehicle commanders must also be able to keep their orientation as they shift in relation to the engagement area.

Use of a spotter tank within the company battle position is critical to maintaining surprise. A single vehicle positioned deep in the battle position can be used to spot the enemy as they enter the engagement area. This spotter tank will remain out of range until the platoons can pick up the enemy as they cross TRPs and the command to fire is given. This is the field equivalent of having an outpost tank in a battle position with the optics up and observing the target engagement area. The company volley for two rounds before breaking into platoon controlled fires is particularly devastating. It can increase the odds for the defender by destroying up to a third of an MRB in less than ten seconds.

The position of a company commander on the battlefield is also very important to the success of the defense. His ability to see every tank and the entire engagement area to direct the battle, however, will probably end up causing him to be one of the first casualties. During a SIMNET exercise, one company commander positioned himself on a forward slope halfway through the valley to see his entire sector. He was killed by the lead BMP platoon when it launched a volley of Anti-Tank (AT) missiles into his tank. The company commander's ability to get good reports from his platoons, build a picture of the battle in his mind, and cause direct and indirect fires to focus more effectively on the enemy will dictate the position he should occupy.

Avoiding fratricide is also critical to maintaining combat power. This means that the unit's fire plan must include covering any dead space and both visually and thermally distinctive TRPs. Range limits for left and right sides of the sector of fire must be designated and marked. All units must have a clear knowledge of where other friendly units are in the battle position. This was graphically demonstrated in companies using the C or U shaped

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battle positions. They were much more likely to have a fratricide at 2000m or more range. Debriefs of the crew indicated confusion on friendly positions and misidentified friendly tanks.

The hasty attack conducted in SIMNET required the company to pass through a stationary unit after receiving the standard passage of lines check list from a battalion liaison officer. An intelligence picture was built by the S-2 to portray some approximate locations and strengths of the enemy defense. The company moved in a tactical formation and after crossing the line of departure (LD) encountered a two vehicle recon screen, a platoon combat outpost, and an MRC(-) in a hasty defense. As companies crossed the LD, some exhibited severe navigation problems from not planning their route adequately. Others clustered together to avoid getting lost or did not maintain a reasonable speed and scattered their vehicles.

The OPFOR recon vehicles were placed so the company would most likely encounter one of them or pass between them. These BMPs were placed to use terrain and tree lines for concealment. The SAFOR operator had instructions to fire and then withdraw if the unit reacted to the scout presence. During the SIMNET exercise, the companies usually ran up on one of the vehicles but did not detect the other. The lead platoon would perform a contact drill and destroy the BMP with an average engagement range of 700 to 1000m. Two BMP platoon combat outposts were placed within the sector to insure the company would make contact with one of them. This normally led to a hard fight with one platoon establishing a base of fire while the others maneuvered under the company commander's control. The security zone MRC was emplaced in an L-shaped battle position with seven BMPs and three tanks. Initially, some were hidden and some exposed by the tree lines in the area. When the company engaged or was engaged, all enemy vehicles were moved out of the trees to fight.

Companies that had good control of their platoons and vehicles stayed together in formation, were able to mass their combat power, and destroyed the enemy position. This situation required the company commander to maneuver his platoons to work the open flanks of the security zone MRC's position. Platoons that did not control their vehicles caused the company to separate in the enemy engagement area and were destroyed. This mission could only be run once due to time constraints in the SIMNET and the press of other companies in the rotation. The AAR was conducted using the PVD to replay the battle for the leaders and then for the company.

Offensive Lessons Learned. Other lessons learned by the units involved the use of concealment and the speed of the M1 tank for movement on the battlefield (see Table 7). Use of the tree lines and their windows remained a critical skill to be used

in the offense, as well as the defense. Taking time out to check the next tree line could reveal the enemy, particularly when the S-2 has given some approximate locations to enemy positions from his situational template. Platoons had a hard time bounding internally. Bounding within the company was much more effective, since a platoon could provide a higher rate of fire to suppress the enemy. A temporary halt by one or two vehicles in a company to scan the area would allow earlier detection of the enemy. The vehicle commander also could check the navigation of the unit. The speed and agility of the M1 or M2 would still allow it to catch up to the rest of the formation. Speed in SIMNET is deceptive since there is no slamming around inside the vehicle when moving at 50 kph cross-country. Companies that moved around 30 kph generally were able to control their formations, navigate, and direct the attack against the enemy. They also avoided being destroyed by not simultaneously moving every vehicle into the enemy engagement area. Finally, the platoons and companies discovered that just as in the defense on Tank Table XII, leaders must issue fire commands for the unit to concentrate fires and destroy the enemy quickly.

Table 7

Platoon AAR Offensive Lessons Learned

SIMNET LESSONS	FIELD APPLICATION
Bounding of Plts Within the Co Vs. Bounding Within the Plt.	Plt Bounding Provides Higher Volume of Suppressive Fire When in Contact With Enemy Plt(+); Required When Enemy is Volley Firing.
Short Halts to scan for Targets and Check Unit Navigation.	Same as Field.
Drivers Must Keep Speed Down to Allow Control of Formations.	Same as Field; Actual Cross-Country Ride Would Naturally Slow Vehicle Movement.
Plt & Co Fire Control is Critical to Focusing on the Enemy.	Same as Field.

Company/Team ARTEP Training

Overview. No company/team-sized maneuver area was available that would support the mission requirements laid out in the MTP. To arrive at the CTC with some degree of company-level proficiency in maneuver, SIMNET was chosen. It offered the advantages of unlimited space, an opposing force, and repeatability of the exercises. For this training, a battalion/task force headquarters cell was provided to pressure the company to interact and provide reports as they would at the CTC. The SAFOR once again provided an OPFOR and BLUFOR flank units. Once in SIMNET, each of the companies would go through

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the same scenario, task organized as three tank platoons and one
mechanized infantry platoon. This supported the Brigade task
organization of initially using the battalion as a pure attack
force and later task organizing after the initial battles. The
available training area would support a similar scenario to the
one used in the platoon ARTEPs. The company would alert, recall
the soldiers, and prepare for combat. A road march of 50
kilometers was planned that ended at the training area. The
company would perform another simulated refuel-on-the-move, this
time with all fueling stations available for simultaneous use,
then occupy an assembly area. Engineer support would be provided
to dig in the tanks, erect obstacles and then conduct combined
breaching drills. LOGPAC operations would be evaluated for both
the company and the support platoon. The company would then road
march to conduct a sub-caliber Tank Table XII and a company fire
control exercise (FCX) on available mini-tank ranges. After a

Table 8

Five Day Training Plan for Company SIMNET Training.

DAY	ACTIVITIES
Friday (PM)	Issue Co OPORD, Graphics, Rehearse for an hasty attack
Monday (AM)	Move from Plt Assembly Areas (AA) to Plt BPs, Occupy BPs, and Prepare EAs.
Monday (PM)	Defend BPs using successive lines of target vehicles. AAR fire and distribution, use of TPRs.
Monday (Night)	Coach modification of plan, Rehearse.
Tuesday (AM)	Plts reset their BPs and defend (x2) against OPFOR. AAR MTP defend.
Tuesday (PM)	Move from BP to supplemental position, counterattack by fire (x2). AAR MTP attack by fire.
Tuesday (Night)	Issue Co OPORD for hasty attack, Rehearse.
Wednesday (AM)	Move from Co AA to Co BP, occupy BPs and prepare EAs.
Wednesday (PM)	Rehearse move to subsequent BP; Defend BP using 3-4 lines of target Vehicles; defend against OPFOR Recon Plt. AAR preparations, TRPs, Direct fire.
Wednesday (Night)	Adjust plan, Rehearse.
Thursday (AM/PM)	Reset BP; Defend BP (x2) against OPFOR including 1 move to subsequent position. AAR Co/Tm MTP defend BP.
Thursday (Night)	Issue OPORD for Movement to Contact (MTC) or Deliberate Attack.
Friday (AM/PM)	Execute MTC or Attack (x2). AAR Co/Tm MTP mission.
Friday (PM)	Final AAR with all Lessons Learned.

short maintenance period, the company would move to SIMNET to conduct attack, defend, passage of lines and battalion advance guard missions.

SIMNET Training. This Company/Team ARTEP training was to be an expansion of the platoon ARTEP concept. The battalion headquarters would deploy a fully manned TOC to support the company in SIMNET. The other companies of the task force would be portrayed as BLUFOR companies slaved to a single crewed vehicle. This configuration would allow the company to be portrayed as an acting part of the task force, from which the manned company can receive support. The company would demonstrate a defense from a battle position, a sector defense, and lead the battalion in a movement to contact and a deliberate attack. This was never fully implemented due to external considerations and the receipt of orders to deactivate the battalion. In its place, a company exercise was run using the UCOFT, PGT and SIMNET. This modified company exercise did not allow full testing of the company commander and his interaction with the battalion task force. Other company exercises were conducted as planned by their commanders and by battalion. The full five day exercise was based on the Five Day Training Plan shown in Table 8.

Battalion Task Force Command Field Exercise

Overview. Before SIMNET became available, the TOC, CTCP and FTCP conducted a coordinated field exercise to practice their battle tasks. The three control nodes concentrated on day and night setup, tear-down, and movement while maintaining communications. Staff procedures and planning were tested using old brigade orders to start the planning cycle. The battalion scout platoon was used to test the local security and perimeter defenses of the command posts. Verification by the battalion commander of these battle drills and tasks was completed before entering SIMNET to certify the staff as ready to control the battalion task force on the battlefield.

The combat and field trains deployed to local training areas while the battalion's leaders entered SIMNET for the CFX. They would remain there to provide support to the garrison and conduct their own training for the next four days. They also would receive updates of battle results from SIMNET as planning input for LOGPACs and battlefield maintenance work load. All platoon leaders, company commanders, the S-3 and task force commander with their crews occupied simulators. Due to simulator constraints, the company commanders and S-3 used Bradleys. The scout platoon was allotted four Bradleys to cover a narrowed screen in front of the task force.

BLUFOR vehicles were slaved to each of the platoon leader vehicles to make full platoons. Each company commander was also

given three Bradleys slaved to his vehicle. This meant detailed planning by the platoon leaders was required for spacing and formations, since changing formation would not be as easy with the unmanned BLUFOR. Formation changes would only be possible if the SAFOR operator knew the changes ahead of time. An administrative radio net could be used for leaders to change formations by calling the SAFOR operator, but this would be too complex for such a large operation. The weapons mix also meant that company commanders had to plan for four platoons and make use of the capabilities and weapons mix of the company/team. Though practiced now in SIMNET with human crews, the SAFOR represented an unknown dimension to maneuver on the battlefield.

SIMNET Training. The overall concept was to conduct a deliberate defense, a deliberate attack, a hasty attack, and a breach of a defended obstacle. The first day was used to brief the operations order at the SIMNET site. Written copies with graphics had been handed out about 24 hours prior to the briefing. During the briefing, crews prepared their vehicles and company XO's began the initial tests of moving the BLUFOR near the assembly areas. Minor technical problems were corrected to make sure leaders and BLUFOR were connected. The units continued to practice, under the XO's control, as they moved forward approximately six kilometers to occupy the defense in sector for the first mission.

The scout screen was positioned on the two major avenues of approach to provide early warning and target hand over of OPFOR recon vehicles to the counter-reconnaissance screen. This company team was positioned forward in the counter-reconnaissance role and given an area of operations between two phase lines. As on the battlefield, the counter-recon company had to organize the hunter-killer positions, rehearse, check the withdrawal lanes, and recon their subsequent battle positions, engagement areas, and the task force counter-attack routes. The main defense companies prepared their battle positions, checked engagement areas, reconned the routes to their subsequent positions, and conducted flank coordination. By the middle of the second day, the companies were set with their positions and well into conducting rehearsals.

In the late afternoon, two BMP platoons were used by the OPFOR as recon. The task force scouts heard them, but only one section was positioned well enough to see the enemy. This was also the only section that reported contact with the enemy recon effort. The counter-recon company, though surprised initially in part of the sector, was able to react and destroy most of the OPFOR. The last enemy scout was passed to a main defensive position company for killing.

The lessons learned were for the scouts to position themselves better in the terrain and to report what they saw and

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heard. The S-2 and S-3 must take the reports from the scouts and question them carefully and quickly for any additional information. The ability to hand over targets from scout to counter-recon screen to the main defense is a critical skill and requires a lot of practice. The enemy recon naturally precedes the main body, but often a "Defend not later than" time locks a mind-set that nothing will happen in the sector until that time. Likewise, the G-2/S-2 timetable for the enemy may be upset and units must remain alert, but continue work, if the enemy does not show up at the projected time.

Day 3 began with the withdrawal of the counter-recon force. The main defensive battle was fought in two parts. The forward positions absorbed a Motorized Rifle Regiment (MRR) attack, with about a company surviving. The task force barely met the standard of not more than a MRC(+) getting through the defense. After an abbreviated AAR, this mission was re-run with better results. This battle ended as the companies began repositioning to the subsequent battle positions. A full AAR was conducted to analyze the differences in the two missions. Neither mission allowed a full strength MRC to get through, nor would the vehicles that survived been organized to continue to an objective as a single fighting unit. Enemy command and control would have been shattered. No data was gathered from the SAFOR station on which OPFOR leader vehicles survived. The second mission did show some formation adjustments of slaved vehicles to take better advantage of available tree lines in the battle positions. Platoon leaders also were able to take better advantage of the slaved vehicles firing in volleys as the platoon pulled out and began to shoot.

The subsequent positions were fought against a MRB(+) with the task force brought up to approximately 75% strength. Platoons cross-leveled vehicles and were balanced at three vehicles each. Once the task force was in position, the enemy attacked. This MRB(+) was stopped and defeated from these positions. This battle was stopped when the task force commander was ready to order the rearward passage of lines.

Lessons Learned. Detailed AARs of the missions were conducted on the three battles and the lessons learned. With BLUFOR vehicles slaved to a leader, formation selection is critical to staying alive. The formation should be matched as closely as possible to the tree line or other cover and concealment being used. If time permits, leaders should use the PVD and stealth to position their vehicles directly for the best concealment. Leaders must position their own vehicle to use the tree line windows to observe their engagement areas and TRPs. Just as in the field, engagement areas must be prepared and driven through to insure the unit's fires are focused and dead space is located and minimized. Internal routes must be

carefully laid out and plotted on maps, primarily because of the closed hatch combat in SIMNET.

The company commanders and staff met for an operation order after the AAR for the next day's mission of deliberate attack. The TOC had to perform battle tracking and some limited preparation for the next mission during the day's battle. During the night the company commanders and platoon leaders performed their own planning, briefbacks, and rehearsals. On day 4 the task force conducted briefbacks and began a deliberate attack that included forcing a river crossing against a defending OPFOR combat outpost platoon. This substitution was made to give the task force the opportunity to perform a deliberate breach of a defended obstacle, considering the limited effects of breaching in SIMNET. The enemy recon and security zone was laid out according to the situational template developed by the S-2 and S-3. During the SAFOR operator training, these positions were checked and modified by driving the OPFOR into better positions than the initial computer placement gave. The river crossing site itself was partially blocked by destroyed vehicles to provide a constricted obstacle.

This mission proved to be a stunning success as the companies and platoons were able to engage the enemy, but were still confronted with the problems of controlling a moving formation, speed, crowding, and navigating. The main enemy defense required the crossing of two additional choke-points, which required the task force to coordinate an attack by fire and a mounted assault against the OPFOR. This mission brought comments from the leaders that the BLUFOR vehicles often behaved like manned vehicles. The particular version of the SIMNET software would occasionally detach a wingman from its leader and send it off on a wild run around the countryside. Platoon leaders admitted this was confusing and several tried to call the vehicle back. Company commanders related that the BLUFOR often engaged the enemy before the human crews could locate the targets. One said he heard firing, saw the SAFOR tanks firing off to a flank and started to ignore it as just wild firing. Then he realized that the BLUFOR could not be trigger happy or nervous, but this was their only kind of spot report. He shifted that platoon over in the direction of the targets and almost instantly got a contact report from the platoon leader.

The lessons learned from this mission included the need to reinforce the scout mission of finding the enemy and confirming the S-2 template. This single information feed will drive decisions made by the commanders on maneuvering prior to contact to avoid enemy kill zones and obstacles. Scouts also must hand over enemy recon vehicles to the lead company for killing while maintaining the forward screen of the task force. Contact reports from the platoons and companies shape the feel of the battlefield for commanders. While firing indicates contact, it

must be followed by a report that quickly describes what has been found. Task force level breaching drills, whether in-stride or deliberate, must be well planned and rehearsed to be successful. The assault, support, and breaching forces must be clearly designated and provided with contingencies in case roles must be switched. The day concluded with a Fragmentary Order (FRAGO) issued over the radio for consolidation, reorganization of the objective, and preparation for a hasty attack the next day to exploit the task force's success.

The last day began with a check of graphics and mission against the FRAGO. Vehicles were reactivated in the last locations of the task force from the previous day. The task force began moving slowly to gain a task force diamond and then picked up speed to seize favorable terrain to hit the enemy flank. The intelligence picture was given as trying to hit a moving second echelon MRR in the flank to delay or prevent its commitment against other forces in the division. This would be particularly difficult for the SAFOR operator to time the start of OPFOR movement as the task force closed into the battle area. The task force encountered and destroyed flank guard platoons from the MRR. They did not present a serious problem for the lead company to destroy quickly. The task force was able to occupy the blocking position as the enemy began moving through and fought an MRB(+). This battle reinforced the lessons already learned. Standardized, rehearsed action and contact drills, and fire control methods learned on Tank Table XII helped commanders in this battle to destroy the enemy.

Coordination with the SAFOR operator and battlemaster are critical to running a CFX with so many BLUFOR vehicles on the battlefield. Ideally, the STEALTH station and PVD would be used to position each BLUFOR vehicle in the defense for the best use of terrain and concealment. Most of this can be taken care of by careful formation selection to match the woodline and using another vehicle to check the positioning of the platoon in trees. The STEALTH was invaluable as the task force commander's "HMMWV," allowing him to troop the line and check positions as he would in combat. This type of observation must be limited to ground level with no overhead views.

Lessons learned. As illustrated in Table 9, participants in the CFX felt there was an overall improvement in command and control, fire support and maneuver for the task force. This was gained through the extra practice of working a task force mission while concurrently forcing companies and platoons to maneuver and report. This is unlike other computer simulations such as ARTBASS and JANUS. All levels of leadership were exercised as company commanders and task force staff participated in rehearsals and briefbacks. The battalion commander was able to observe not only company orders, but also selected orders given by the platoon leaders to their crews. Though ADA and engineers

were not played in this first CFX, they could easily be
incorporated in both the planning and execution of battles in
SIMNET, exactly as they are in field training exercises.

After Action Review and Training Plan

After each part of the SIMNET training was completed, the
MTP checklists used by the observers were collected and reviewed
by the battalion commander. He would discuss them with each of
the company commanders to guide the formulation of training for

Table 9

Bn/TF CFX AAR Lessons Learned.

SIMNET LESSONS	FIELD APPLICATION
Thorough and clear reporting is required for the RECON/Counter-RECON battles to be successful.	Fratricide prevention as enemy tries to gain intelligence or pass through the friendly unit.
TOC, CTCP, & FTCP must go through a verification of their ability to assist the Command & Control of the unit.	Done prior to entering SIMNET in the field as part of simulations for brigade and as own FTX to train individual duties.
Formations must be briefed, trained and thoroughly rehearsed.	Same as field; to provide quick response to enemy actions.
Engagement areas must be thoroughly checked for dead space and identifiable TRP's.	Same as field; to insure all fires are focused and the enemy is constantly attacked.
Internal routes in a sector or BP must be laid out, widely known, and strictly followed for fast, safe movement.	Provides fast internal movement against the enemy and also a fratricide prevention measure.
Security is a constant requirement in the defense and offense.	Same as field; prevents tactical surprise by the enemy.
Relieve and/or reinforce the scouts from their forward positions to resupply, maintain, and as required by the mission.	Same as field; prevents overuse of scouts and plans for their best use at peak performance levels.
Limit the use of the PVD/STEALTH station to AAR'S & visits to units by Sr. commander to "Troop the line."	Allows a realistic check of positions without allowing unrealistic knowledge of the area.

the company over the next several months. Feedback was also
taken from the company commanders about the good and bad points
of the SIMNET exercises. Though this system of training could be
used for direct testing of units under the exact same set of

conditions for comparisons, it was not used in this manner. SIMNET was used strictly as a tactical unit trainer to exercise leadership, planning, and test techniques in the platoons, companies, and battalion for application to field training.

Emphasis must be placed on the transferable skills between SIMNET and the actual vehicles in the field. These skills must often be directly pointed out to the crewmen during their AARs. Sky-lining or silhouetting a vehicle is as deadly in SIMNET as it is at a CTC or in combat. Using camouflage in the field and proper positioning in tree lines have a direct correlation to camouflage in SIMNET. Leaders must be able to understand the enemy and the terrain on which they will fight and focus their direct and indirect fires on the enemy's weakness. Leaders must know and be able to demonstrate to their soldiers the types of skills, tactics and techniques that will keep them alive on the battlefield. While SIMNET is a good tool for practicing tactics, care must be taken when drawing conclusions to be used when trying to rewrite a tactical SOP or doctrine. Internal workings of the unit can be drawn for lessons learned, while the external interaction with the SAFOR must be carefully examined since the vehicles are unmanned. Finally, retraining can be conducted with tailor made exercises or the same exercise as used in the previous test to sustain strengths and train weaknesses. These factors must all be considered when using any simulator to feed results back into the training loop. The failure to balance real and simulator results can quickly lead a unit off-course in their training plan.

Additional Techniques and Procedures in SIMNET

Units will discover other small "tricks of the trade" while operating in SIMNET, often from crew comments made during platoon or company AARs. Here is a brief list of ideas that were brought-up in the training conducted, most of which apply to training in the field:

(1) A vehicle that stops to scan for targets and to check the unit navigation must train this exactly like a battle drill. The vehicle commander issues the command to stop, hits the azimuth button of the direction of movement, and mentally notes an object in that direction through the sight. He then turns control over to the gunner who quickly scans the surrounding area while the commander makes a check of the route on his map. The driver should report distance traveled on that leg to confirm the present location. Resection can also be done with the azimuth button, if required. The vehicle then moves out to catch up with the formation. This vehicle should be preselected by the unit and give location updates over the radio.

(2) All movements in SIMNET should be plotted out on the map in each vehicle. Closed hatch navigation is difficult, but

proper planning of azimuth, distance, and visible landmarks on each leg of a course will prevent getting lost. Trying to navigate by terrain association requires extensive experience in the simulators. Drivers must constantly note distance traveled and watch their speed to assist the vehicle commander.

(3) M1 simulators should be down loaded to only 40 main gun rounds. The forty-first round should be provided only if the unit leadership asks for it. The transfer of ammo between hull storage or semi-ready rack should be accomplished at every break in the battle. Actual transfer of up to 5 rounds at a time can be accomplished while stationary or on the move in the actual tank. This drill should be regularly practiced in tank units. Remembering to do this should be practiced in the simulator with the ammo transfer control panel.

(4) Vehicle commanders and drivers should be prepared for the loss of their vision blocks when fighting or moving through artillery. This must be trained in both the real vehicle and the simulator. As the loader takes over guiding the vehicle, the gunner must search for targets and allow the TC to scan the area. A driving course for the actual tank can be set up, with the loader and TC practice directing a blind driver through obstacles to a safe tactical halt for a vision block change. Loss of vision blocks should never cause a vehicle to halt suddenly on the battlefield.

(5) Calling artillery is actually simpler in SIMNET than in the field. Realistic target effects, judgment of shifts, adds or drops, and the use of vehicle sights to sense provide much better training than a fire-marker or puff board. The azimuth indicator provides much more precision for the observer-target line calculation and, in combination with the laser range-finder, encourages the use of the polar plot method over secure radio nets.

(6) M2 Bradley crews should never feel that if they run up against a tank unexpectedly that they have instantly lost the fight. The 25mm cannon is an excellent weapon and should be instantly fired at the tank, covering the primary sight system area and then the driver's periscopes to strip the average tank crew of the ability to fight or move. Next the cannon should be used to cut a track off and, finally, to blind the TC and loader's periscopes. This only takes a few bursts and provides time to get away from a crippled tank or put the TOW launcher up to destroy the tank.

Conclusion

SIMNET is a tactical trainer offering low cost, repeatable exercises to train battle drills and reinforce or practice unit METL. It is not a gunnery trainer and will provide disappointing

results for units trying to use it that way. Just as the UCOFT
has a progression matrix to teach various skills that an Abrams
or Bradley commander and gunner must have, SIMNET can be set-up
with a MTP matrix to train and evaluate tactical proficiency.
Using the SAFOR to provide adjacent BLUFOR units and OPFOR to
fight gives the task force, company and platoon leadership a
highly flexible tool to train combat skills and decision making
on the battlefield.

This report attempted to document an example of one unit's
utilization of the SIMNET capabilities in conjunction with other
training and devices. Additionally, there were indications
provided in the text, to allow commanders to modify the training
described to fit their own METL and battle task requirements.

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Glossary

AA - Assembly Area
AAR - After Action Review
ADAM - Artillery-Delivered Anti-Tank Mine
ALOC - Administrative/Logistics Operations Center
ARTBASS - Army Training Battle Simulation System
ARTEP - Army Training and Evaluation Program
AT - Anti-Tank

BCTP - Battle Command Training Program
BLUFOR - Blue Forces (semi-automated friendly forces)
BMP - Russian armored infantry combat vehicle
Bn - Battalion
Bn Cdr - Battalion Commander
Bn/TF - Battalion/Task Force
BP - Battle Position
BSA - Brigade Support Area

C^3 - Command, Control, and Communication
C&CS - Combat and Combat Support
CALFEX - Combined Arms Live Fire Exercise
CAS - Close Air Support
CBT - Computer-Based Training
CFX - Command Field Exercise
CMD - Command
Co - Company
Co Cdr - Company Commander
CONUS - Continental United States
COPPERHEAD - A precision guided artillery round
CP - Command Post
CRP - Combat Reconnaissance Patrol
CS - Combat Support
CSR - Controlled Supply Rate
CSS - Combat Service Support
CTC - Combat Training Center
CTCP - Combat Trains Command Post
CTT - Common Task Training

DMD - Digital Message Device
DSA - Division Support Area

EA - Engagement Area
EENT - End Evening Nautical Twilight
ENG - Engineer

FDC - Fire Direction Center
FIST - Fire Support Team
FTCP - Field Trains Command Post
FM - Field Manual
FRAGO - Fragmentary Order

FRG - Federal Republic of Germany
FSE - Fire Support Element
FTX - Field Training Exercise

GEMMS - Ground Emplaced Mine Scattering System

HE PD - High Explosive, Point Detonating Artillery Round
HE VT - High Explosive, Variable Time Fused Artillery Round
HEMTT - Heavy Expanded Mobility Tactical Truck
HMMWV - High Mobility Multipurpose Wheeled Vehicle

I/O - Instructor/Operator

JANUS - A computer combat simulation model (not an acronym)

LD - Line of Departure
LOGEX - Logistics Exercise
LOGPAC - Logistics Package
LP/OP - Listening Post/Observation Post

MBC - Mortar Ballistic Computer
METL - Mission Essential Task List
MICLIC - Mine-Clearing Line Charge
MILES - Multiple Integrated Laser Engagement System
MOPP - Mission-Oriented Protective Posture
MOS - Military Occupational Specialty
MRB - Motorized Rifle Battalion
MRC - Motorized Rifle Company
MRR - Motorized Rifle Regiment
MTC - Movement to Contact
MTOE - Modified Tables of Organization and Equipment
MTP - Mission Training Plan

NBC - Nuclear, Biological, and Chemical
NCO - Non-Commissioned Officers

OPFOR - Opposing Force
OPORD - Operations Order
OPTEMPO - Operational Tempo

PGT - Platoon Gunnery Trainer
Plt - Platoon
Plt Ldr - Platoon Leader
POC - Point of Contact
PVD - Plan View Display

RAAMS - Remote Anti-Armor Mine System
RDS - Rounds
ROE - Rules of Engagement
ROM - Refuel on the Move
RP - Release Point

S-2 - Intelligence Officer
S-3 - Operations Officer
SAFOR - Semi-Automated Forces
SIMNET - Simulation Network
SOP - Standard Operating Procedure
SP -Start Point
STX - Situational Training Exercise

TACFIRE - Tactical Fire Direction System
TACSOP - Tactical Standard Operating Procedure
TF - Task Force
TOC - Tactical Operations Center
TRNG - Training
TRP - Target Reference Point
TSFO - Training Set, Fire Observation

UCOFT - Unit Conduct of Fire Trainer
UMCP - Unit Maintenance Collection Point

XO - Executive Officer

Appendix A
SIMNET Planning Package

PLANNING PACKAGE[1]

This planning package contains several forms that must be completed before your unit can participate in a SIMNET training exercise. The completed package should be delivered to the SIMNET Site Operations Manager prior to the unit arriving at the site for training. It is strongly recommended that this package be delivered a week to ten days prior to the scheduled training time. This will allow you and the Site Operations Manager time to discuss your training objectives, operations order, overlay and also to clarify any questions on the training. This face-to-face coordination will ensure that you can start training when you arrive at the site without having to wait while information is input into the computer.

UNIT: _____

TRAINING DATE: _____

UNIT POC: _____

PHONE NUMBER: _____

STATE YOUR TRAINING OBJECTIVES: _____

_____

_____

_____

SIMULATORS REQUIRED:	M1 COMMAND _____ NON-CMD _____
	M2/3 COMMAND _____ NON-CMD _____
	DISMOUNTED INFANTRY: YES NO
SUPPORT FACILITIES:	TOC _____ CLASSROOM _____
WORKSTATIONS REQUIRED:	STEALTH _____ PVD _____ FSE _____
	DATALOGGER _____ CAS _____ ENG _____
	SAFOR _____ CLASS III/V _____ MAINT _____

[1]This Planning Package was prepared by the SIMNET Site Staff and is the preparatory package used by the 1st Bn, 68th Armor and the 2nd Bn, 32nd Armor prior to their SIMNET training.

A	B	C	D	E	F	G	H	I	J	K
Sim	Unit	Veh Type CMD/NCMD	Bumper #	Location	Azimuth (0-6400)	Alignment Blue/Red/S	Fuel	Ammo	Maint Status (1-5)	Remarks

WORKSHEET 2

This worksheet requires you to provide the data necessary to initialize the CS and CSS assets to support your training.

ARTILLERY

If any artillery is used, then the information for at least one battery and the mortar platoon is required to include the supply rate information. If additional batteries are selected, their information must also be provided.

If artillery-deliverable mines are to be used, the information for mine quantities on-hand at the guns and the CSRs must be provided.

CLOSE AIR SUPPORT (CAS)

This portion of the worksheet requires the number of sorties available and the number that can be preplanned.

ENGINEER

This portion of the worksheet deals with the number of engineer platoons and their equipment. If you want to start the platoons from different locations you must complete **worksheet number 3**.

COMBAT SERVICE SUPPORT (CSS)

If any CSS is used, then all information in the first portion, that relates to the Class III/V in DSA, BSA, and UMCP is required. Depending on whether the unit uses UNIT or ECHELON trains, all information must be provided for the one chosen.

Should you have any questions the Operations Officer or Battlemaster will assist you in resolving them.

WORKSHEET 4: SEMI-AUTOMATED FORCES (SAFOR)

The SAFOR is an automated method of providing friendly and/or enemy forces. Forces can be single vehicles or an organization from platoon to company size. Ground and air forces (fixed and rotary wing) can be provided. By using four simulators (company commander and three platoon leaders), SAFOR can provide the additional three vehicles for each platoon to make a full company. SAFOR vehicles will react to the vehicle commanding them so that with just four crews, a company commander can practice with a complete company. Opposing forces can be provided from single vehicles up to battalion strength. Friendly and opposing semi-automated forces can be used at the same time.

SIZE AND COMPOSITION OF FORCES

Indicate the size as individual vehicles, platoon, company or battalion, pure tank or pure mechanized infantry, or tank heavy or mechanized infantry heavy.

GUNNER CRITERIA

Circle just one of either **master competent novice** write in the engagement range you want the vehicles to *begin* firing.

A-4

WORKSHEET 2
COMBAT SUPPORT

TACTICAL OPERATIONS CENTER LOCATION (CENTER OF MASS):

_____

Role: OFF _____ DEF _____ SHARED _____ (Visible to both sides for force-on-force)

ARTILLERY

HOW MANY BATTERIES (UP TO 3): _____

BATTERY #1

BATTERY CENTER OF MASS LOCATION: _____

BATTERY AZIMUTH OF FIRE (MILS): _____

INITIAL AMMUNITION SUPPLY AT GUN SITE (ROUNDS PER GUN)

*HE PD _____   *ADAM _____
                                     (AERIAL DELIVERY ARTY MUNITION)
*HE VT _____   *RAAMS _____
                                     (REMOTE ANTI-ARMOR MINE)
CONTROLLED SUPPLY RATE (ROUNDS PER GUN PER DAY)

*HE PD _____   *ADAM _____

*HE VT _____   *RAAMS _____

MORTAR PLATOON
*PLATOON CENTER OF MASS

LOCATION: _____

*PLATOON AZIMUTH OF FIRE

(MILS): _____

INITIAL AMMUNITION SUPPLY AT GUN SITE

*HE PD _____ RDS/GUN

*HE VT _____ RDS/GUN

CONTROLLED SUPPLY RATE

*HE PD _____ RDS/GUN/DAY

*HE VT _____ RDS/GUN/DAY

*ITEMS MUST BE PROVIDED IF ANY ARTY OR MORTAR IS PLAYED

BATTERY #2 (If used)

    BATTERY CENTER OF MASS LOCATION: _____

    BATTERY AZIMUTH OF FIRE (MILS): _____

    INITIAL AMMUNITION SUPPLY AT GUN SITE (ROUNDS PER GUN)

        HE PD _____   ADAM _____

        HE VT _____   RAAMS _____

    CONTROLLED SUPPLY RATE (ROUNDS PER GUN PER DAY)

        HE PD _____   ADAM _____

        HE VT _____   RAAMS _____

BATTERY #3 (If used)

    BATTERY CENTER OF MASS LOCATION: _____

    BATTERY AZIMUTH OF FIRE (MILS): _____

    INITIAL AMMUNITION SUPPLY AT GUN SITE (ROUNDS PER GUN)

        HE PD _____   ADAM _____

        HE VT _____   RAAMS _____

    CONTROLLED SUPPLY RATE (ROUNDS PER GUN PER DAY)

        HE PD _____   ADAM _____

        HE VT _____   RAAMS _____

CLOSE AIR SUPPORT (CAS)

    TOTAL NUMBER OF SORTIES AVAILABLE: _____

    NUMBER OF CAS SORTIES THAT CAN BE REPLANNED: _____

COMBAT ENGINEER ELEMENTS

    NUMBER OF ENGINEER PLATOONS (0-5) _____

    NUMBER OF M128 GEMMS AVAILABLE (0-5) _____

    NUMBER OF M57 AVAILABLE (0-5) _____

    NUMBER OF M85-A1 MICLIC AVAILABLE (0-5) _____

DEFAULT STARTING LOCATION _____

(IF YOU WISH TO HAVE A SEPARATE STARTING LOCATION FOR ANY OF THE VEHICLES, USE WORKSHEET 3.)

COMBAT SERVICE SUPPORT

ADMIN/LOGISTICS OPERATIONS CENTER LOCATION (CENTER OF MASS): _____

      ROLE: OFF _____ DEF _____ SHARED _____ (Visible to both sides for force-on-force)

Class III Supply Locations

           **(1) CLASS III SUPPLY POINT _____ (DSA)

           **(2) CLASS III DISTRIBUTION POINT _____ (BSA)

Class V Supply Locations

           **(3) CLASS V SUPPLY POINT _____ (DSA)

           **(4) CLASS V TRANSFER POINT _____ (BSA)

      **UNIT MAINTENANCE COLLECTION POINT: _____

(All Maintenance Teams will be located here if unit trains is selected. If echelon trains are chosen the maintenance teams will be disbursed as directed below.)

(ALL ** NOTED ITEMS MUST BE PROVIDED IF ANY CSS IS TO BE PLAYED.)

BATTALION COMBAT SERVICE SUPPORT (Choose either Unit trains or Echelon trains)

    UNIT TRAINS (All fuel and ammo trucks located here)

        SUPPORT PLATOON LOCATION: _____

        LOGISTICS RELEASE POINT: _____

    (FOR SINGLE COMPANY OPERATIONS, TWO AMMO, TWO FUEL TRUCKS, AND COMPANY MAINTENANCE WILL BE PLACED HERE.)

    OR

    ECHELON TRAINS

        BATTALION TRAINS

            Class III - Fuel Supply _____ (2 fuel trucks)

            Class V - Ammo Supply _____ (2 ammo trucks)

        COMPANY TRAINS LOCATIONS

            (1) COMPANY A _____

            (2) COMPANY B _____

            (3) COMPANY C _____

            (4) COMPANY D _____

        Alternate Maintenance Team locations:

            (1) COMPANY A _____

            (2) COMPANY B _____

            (3) COMPANY C _____

            (4) COMPANY D _____

WORKSHEET 3

ENGINEER VEHICLE STARTING LOCATION

(TO BE USED ONLY IF YOU WANT ANY VEHICLE(S) AT A LOCATION OTHER THAN THE DEFAULT LOCATION)

VEHICLE	LOCATION
A/1/1	_____
A/1/2	_____
A/1/3	_____
A/1/4	_____
A/2/1	_____
A/2/2	_____
A/2/3	_____
A/2/4	_____
A/3/1	_____
A/3/2	_____
A/3/3	_____
A/3/4	_____
A/4/1	_____
A/4/2	_____
A/4/3	_____
A/4/4	_____
A/5/1	_____
A/5/2	_____
A/5/3	_____
A/5/4	_____

SEMI-AUTOMATED FORCES INSTRUCTIONS - WORKSHEET 4

SIZE AND COMPOSITION OF FORCES:

GUNNER CRITERIA: MASTER   COMPETENT   NOVICE   ENGAGEMENT RANGE:

ATTACH TO:

OPFOR COMMANDER'S INTENT:

MOVEMENT INSTRUCTIONS:

INDIVIDUAL VEHICLE

TYPE	LOCATION	AZIMUTH

TRACK VEHICLES

PLATOON

TYPE	LOCATION	AZIMUTH	FORMATION

COMPANY

TYPE	LOCATION	AZIMUTH	FORMATION

CODE FOR TYPE VEH.   T=TANK M=MECH INF.   TH=TANK HEAVY MH=MECH. INF. HEAVY

A-10

PLANNING A SIMNET EXERCISE

1. DETERMINE YOUR TRAINING OBJECTIVE.

2. DETERMINE YOUR ROLE IN TRAINING.

3. DETERMINE COMBAT SUPPORT AND CSS REQUIREMENTS.

4. DETERMINE OPPOSING FORCE REQUIREMENTS.

5. SELECT TERRAIN TO SUPPORT YOUR OBJECTIVE.

6. PREPARE GRAPHICS.

7. PREPARE OPERATIONS ORDER.

8. PREPARE SEQUENCE OF EVENTS.

9. PREPARE EVALUATION PLAN.

10. FILL-OUT WORKSHEETS.

11. COORDINATE WITH SITE OPERATIONS MANAGER.

12. DEVELOP PLAN FOR CREW TRAINING WHERE THERE IS DEAD TIME FOR THEM.

13. ISSUE ORDER AND SUPPORTING GRAPHICS PRIOR TO GOING TO THE SIMNET SITE.

14. COORDINATE ADMINISTRATIVE REQUIREMENTS.

    a. TRANSPORTATION.

    b. BILLETS.

    c. MESS SUPPORT.,

WORKSHEET 5

SEQUENCE OF EVENTS

EVENT 1.

    ADJACENT FORCES:

    OPPOSING FORCES:

EVENT 2.

    ADJACENT FORCES:

    OPPOSING FORCES:

EVENT 3.

    ADJACENT FORCES:

    OPPOSING FORCES:

WORKSHEET 5
(SAMPLE)
SEQUENCE OF EVENTS

EVENT 1. Conduct road march from forward staging area to assembly area. Enemy situation is vague, contact is not expected.

    ADJACENT FORCES: Radio transmissions on Bn/TF command net calling SP, CPs, and closing in assembly areas.

    OPPOSING FORCES: N/A

EVENT 2. Occupy assembly area.

    ADJACENT FORCES: Standard spot reports on Bn/TF command net.

    OPPOSING FORCES: N/A

EVENT 3. Conduct passage of lines.

    ADJACENT FORCES: Report SP, CPs, RP, any contact and SOP reports on the Bn/TF command net.

    OPPOSING FORCES: One CRP 2500 meters in front of each lead platoon in each Co/TM area. OPFOR Artillery (15 rounds) is placed on lead elements of approaching force when they are 1500 meters from the CRP. CRP withdraws to first phase line, maintaining contact as they withdraw.

EVENT 4. Movement to contact.

    ADJACENT FORCES: Report CPs and any contact on Bn/TF command net. Keep adjacent forces abreast of training unit. Do not allow them to advance forward of training unit.

    OPPOSING FORCES: Two CRP elements in each Co/TM sector, including adjacent forces sector. CRP maneuvers in attempt to flank lead platoon and find main body. If successful, the CRP places OPFOR artillery on main body. CRP withdraws under pressure, maintaining contact back to second phase line. Upon reaching the FSE, OPFOR fires are placed on advancing unit.

EVENT 5. Hasty Attack.

    ADJACENT FORCES: Spot reports on the Bn/TF command net indicating contact and they are developing the situation.

    OPPOSING FORCES: As training unit approaches, OPFOR artillery (10) rounds are placed on lead elements at 800 meters, 500 meters, and 200 meters forward of FSE. When training unit is 200 meters from the FSE, the FSE starts withdrawal to alternate position.